**Project Design Phase-II**

**Technology Stack (Architecture & Stack)**

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| Date | 16 April 2025 |
| Team ID | SWTID1744825374 |
| Project Name | SB Foods – MERN Stack Food Ordering Web App |
| Maximum Marks | 4 Marks |

**Table-1 : Components & Technologies:**

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| --- | --- | --- | --- |
| **S.No** | **Component** | **Description** | **Technology** |
| **1** | **User Interface** | **Web UI for browsing food items, cart, login, signup** | **HTML, CSS, JavaScript, React.js** |
| **2** | **Application Logic-1** | **Handles user authentication, form validation, cart logic** | **Node.js, Express.js** |
| **3** | **Application Logic-2** | **Order processing and simulated payment logic** | **Node.js, Express.js** |
| **4** | **Application Logic-3** | **Order history retrieval and filtering by user** | **Node.js, Express.js** |
| **5** | **Database** | **Stores users, food items, orders** | **MongoDB (NoSQL)** |
| **6** | **Cloud Database** | **Online hosting of database (for deployment phase)** | **MongoDB Atlas** |
| **7** | **File Storage** | **Image links stored via URL; no direct file storage** | **Image URLs (Unsplash/Freepik)** |
| **8** | **External API-1** | **Geolocation API for optional location autofill (future scope)** | **Google Maps API (optional)** |
| **9** | **External API-2** | **Not used currently** | **—** |
| **10** | **Machine Learning Model** | **Not applicable for this version** | **—** |
| **11** | **Infrastructure** | **Backend and frontend run locally (for development)** | **Localhost, Node.js server** |

**Table-2: Application Characteristics:**

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| --- | --- | --- | --- |
| **S.No** | **Characteristics** | **Description** | **Technology** |
| **1** | **Open-Source Frameworks** | **React.js, Express.js, Node.js, Bootstrap** | **React, Express, Bootstrap** |
| **2** | **Security Implementations** | **JWT for user authentication; bcrypt for password hashing** | **JWT, bcrypt, HTTPS** |
| **3** | **Scalable Architecture** | **Follows 3-tier architecture: frontend, backend API, database** | **MERN Stack** |
| **4** | **Availability** | **Can be deployed on cloud servers with uptime monitoring tools** | **Render, Vercel (deployment)** |
| **5** | **Performance** | **Optimized API responses; uses React lazy loading and state management** | **React Context API, MongoDB** |